

3967

U. S. G. SURVEY
L. & A.
No. 5-1117
Ass. No. 2

Diag. Cht. No. 5530-4

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *California*

11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. *3967*

LOCALITY:

San Francisco Bay
Western Side.
Hunters Point to
Bluff Point.

1917

CHIEF OF PARTY:
L. O. Colbert.

3967
3967

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. **3967** (Field No. 11

State **California**

General locality **San Francisco Bay**

Locality **Angel Island to Hunters Point**

Chief of party **L.O. Colbert**

Surveyed by **Wire Drag Party No. 4**

Date of survey **February-March 1917**

Scale **1, 20,000**

Soundings in **feet**

Plane of reference **Mean lower low water**

Protracted by **W.H. Clark, Aid** Soundings in pencil by **W.H. Clark, Aid**

Inked by **W.H. Clark, Aid** Verified by **Geo. R. Kantzler, D.O.**

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, 2 Boat sheets,

 1 Sounding books, 4 Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: **Color scheme for drag depths as follows:-**

40 feet and over..... Red
30-39 feet..... Blue
20- 29 feet Orange
10-19 feet Brown

DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

E. Lester Jones.

Superintendent

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET NO. 3967 *II*)

SOUTHERN PART OF SAN FRANCISCO BAY.

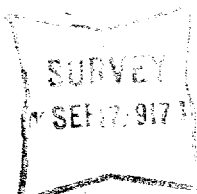
By

WIRE DRAG PARTY NO. 4

L.O. Colbert, Chief of Party.

- 1917 -

Scale 1- 20,000.



H. & G. ENGINEER IN CHARGE (S)

Instructions dated Nov. 21, 1916

L.O.C.

DESCRIPTIVE REPORT
To accompany

WIRE DRAG SHEET No. 3967 (Field No. II)

SOUTHERN PART OF SAN FRANCISCO BAY

LOCALITY AND LIMITS OF SHEET:-

This sheet covers the following area which was swept by the wire drag in the San Francisco Bay, California. At the northern end it joins with sheet No. 1 of this work. Starting on the east side of Raccoon Straits between Southampton Shoal Light and Bluff Point, the work extends southward to the five-fathom curve two miles below Hunters Point. The eastern limit is approximately marked by the five-fathom curve extending from Southampton Shoal, past the western shore of Goat Island and then southward off the Alameda flats. The western limit at the northern end overlaps sheet No. 1 on a line between the western points of Angel and Alcatraz Island. South of this, the drag was run along the waterfront of San Francisco close to the outer limits of the wharves to a point off Mission Rock, thence in a line to Point Avisadero and thence south (true) to the lower limits.

DEPTH DRAGGED:-

East of Angel Island and close to the beach the effective depth of the drag was 31 feet. Off the edge of Southampton Shoal the depth dragged was 26 feet. In mid-channel the depth varied from 33 to 46 feet.

Between Angel and Alcatraz Islands the largest area was covered with at least 35 feet. To the east of this area in mid-channel the depths were 45 and 46 feet but toward the edge of the flats the depth dropped from 37 to 26 feet.

South of Alcatraz the average was from 35 to 39 feet. Along the San Francisco waterfront as far as Hunters Point the drag depth was 26 to 28 feet. In mid-channel between San Francisco and Goat Island and for a distance south of Goat Island the depths were from 39 to 43 feet.

East and South of Mission Rock the mid-channel depths were about 35 feet with the area close to the flats on the eastern shore covered by 27 to 32 feet. South of Hunters Point the inshore areas were 28 feet with 34 feet in mid-channel. At the southern limit of the sheet near the five-fathom curve there is a small area covered by 25 feet.

SPLITS:-

There are two small areas on the sheet which were not covered. The first of these is about one mile east of the ferry slips. The cruiser PUEBLO was anchored here during the entire time this work was in progress. The second split is about one mile south-east of Mission Rock where a coal barge was moored. The drag was taken as close to these ships as possible without fouling their moorings.

SHOALS:-

1. A shoal with a least sounding of 27 feet was found $1\frac{1}{2}$ miles south of Southampton Shoal Lighthouse. Very soft bottom was found. The shoal seemed to extend over considerable area and proved to be practically level. A drag set at 26 feet was later carried over the shoal. The least depth found plotted within about 150 meters of a 31 foot spot shown on the chart.
2. About a mile to the westward of Alcatraz Island Light the drag fouled on a shoal where a least depth of 35 feet was found, with muddy bottom. On the chart in practically the same place 37 feet was shown. The shoal was cleared by a drag set at 32 feet.
3. A drag set at 42 feet fouled on a spot about $1\frac{1}{2}$ miles due east of Mission Rock. The shoalest sounding obtained was that of 51 feet with hard bottom. Another sounding of 55 feet with soft bottom was found in about the same place. A drag set at 39 feet later cleared this spot. It is probable that the drag settled on the bottom on account of leaky floats.
4. Slightly over $2\frac{1}{2}$ miles to the northeast of Pt. Avisadero the drag set at 31 feet fouled. Two soundings were obtained, one of 33 feet and one of 37 feet with soft bottom. These plot only a few meters from a 31 foot spot shown on the chart. Later on the 33 foot sounding was covered with a drag whose effective depth was 27 feet. while the 37 foot spot was cleared by a drag drawing 32 feet.
5. A shoal of 32 feet was found about three quarters of a mile southeast of Mission Rock. Two boulders were located, one at a depth of 36 feet. A drag set at 31 feet cleared the area.

SHOALS (CONT):-

6. About one mile northeast of Mission Rock the drag set at 35 and 36 feet fouled on two occasions but in neither case was any sounding as shoal as this obtained. The lead line showed signs of rusty iron, probably the remains of a wreck and what might be the mast and stays of a hulk were felt with the lead at about this depth but no definite sounding could be obtained on account of the strong current and undertow. It was found by investigation at the Marine Exchange that a coal ship had been sunk in about this vicinity as the result of a collision and it is fairly certain that the stumps of the masts are what fouled the drag. The drag was so securely anchored on each occasion that it was necessary to cut the wire and pick up from either end. A drag with an effective depth of 32 feet cleared this spot. It is suggested that a wreck symbol with a sounding of 35 feet be marked on the chart.

CONTROL OF THE SURVEY:-

The signals used were based on triangulation by Assistant E.W. Eickelberg and by plane table locations of a few objects by the topographic revision party under Assistant Harry Kelsh, Jr.

The scale of the smooth drag sheet is 1-20,000. For greater convenience and accuracy the work was done on the boat sheets on a scale of 1-10,000.

TIDAL REDUCTION:-

The tides for reducing the records were obtained from observations at the automatic gauges at the Presidio and at Hunters Point. The former was used for all work north and west of a line between Goat Island and the Ferry Building. South of this line the gauge at the latter place was used.

CURRENTS:-

No observations were made to determine the strength and direction of the currents in this area on account of lack of time to spare from dragging operations.

CURRENTS (CONT):-

In general the current was found to flow with the channel from and toward the head of the Bay. Tide rips were encountered in the vicinity of Alcatraz Island and at certain stages of the tide a line of heavy rips was encountered extending from Alcatraz Island for a mile to the eastward.

CONCLUSION:-

On this sheet the progress of the completed area was delayed by the necessity of using numerous short drags in the vicinity of San Francisco waterfront, Alcatraz Island and in the anchorage off Mission Rock. There were numerous ships and barges moored at different periods off the city and it was necessary to postpone the dragging in this vicinity until these ships were at a minimum and then to drag between those moored. When the area just left was free, drags were run over these spots.

Twice when using long drags, the work was stopped by fouling nets of the Chinese shrimp fisherman. It was impossible to prevent these fishermen from setting their nets where the drag was operating because they were warned not set them out in these places on the two occasions mentioned in sufficient time to keep clear.

Respectfully submitted,

L. O. Rollert.

Hyd. & Geo. Eng C & G Survey,
Chief, Wire Drag Party No.4

STATISTICS FOR WIRE DRAG SHEET NO. 8967

<u>Day</u>	<u>No. Angles</u>	<u>No. Stat. Miles</u>	<u>No. retained Sdgs.</u>
A	93	2.0	1
B	380	7.9	
C	36	0.6	
D	148	2.9	
E	54	1.0	
F	157	2.0	
G	225	4.2	
H	393	9.8	
J	354	8.5	4
K	123	1.8	2
L	246	7.2	
M	364	9.2	
N	36	1.1	2
P	691	19.5	
Q	198	3.5	2
R	443	12.5	
S	398	10.6	
T	532	15.1	
	<hr/> 4801	<hr/> 119.4	<hr/> 11

Total

Total area 24 square miles(stat)

ADDRESS
U. S. COAST AND GEODETIC SURVEY
WASHINGTON, D. C.

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REFER TO NO.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

LIBRARY ✓ FIELD RECORDS (H) 20
Place with descriptive report
of hydrographic sheet No. 3967
October 17, 1917
Drawing Section, GLS

Division of Hydrography and Topography: 20

Division of Charts:

Tidal reductions are approved in
5 volumes of Sounding records for

HYDROGRAPHIC SHEET 3967

San Francisco Bay, California.
L.O.Colbert in 1916-1917.

Plane of reference is
Mean lower low water, reading

5.5 ft. on tide staff at Presidio
5.4 " " " " " Point Richmond.

L. P. Shidy
Acting Chief, Section of
Tides and Currents.

Verification Report of Hydrographic Sheet No. 3467.

There were no errors found in the plotting of this sheet.

One small split other than that indicated by field party was discovered as indicated.

All of the area swept over was particularly well covered. The records were in good order.

Respectfully submitted,

Ulois Ball

Draper.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS.

REPORT ON WIRE DRAG SHEET No. 3967.

Surveyed in 1917.

Chief of Party: L. O. Colbert.

Surveyed by L. O. Colbert.

Protracted and inked by W. H. Clark.

Verified and area and depth sheet by A. Baer.

1. The records as well as the plan and character of the survey conform to the requirements of the General Instructions.
2. Except that the dredged area does not extend inshore to the 3 fathom curve the plan and extent of the work satisfy the specific instructions.
3. There are several splits of such small extent that there is little likelihood of shoals being included within them. No further dragging is required within the area covered by the sheet unless it be considered desirable to cover the entire area outside of the 3 fathom curve.
4. The field plotting was completed to the extent prescribed in General Instructions.
5. The character and scope of the surveying and also the field drafting are excellent.
6. Reviewed by E. P. Ellis, October, 1921.